

Arboricultural Survey & Report

Implication Assessment & Method Statement in Support of Development

BS5837:2012 Trees in Relation to Design, demolition and construction – Recommendations



CLIENT: Miller Bourne
SITE REF: Courthope Centre, Lindfield, Portslade BN41 2LZ
MWA REF: DEV230802-1089Amd1
MWA CONSULTANT: Ben McWalter MRICS M.Arbor.A
REPORT DATE: 19.10.2023

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1.0 Introduction

1.1 We are instructed by Miller Bourne to undertake a tree survey in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction- Recommendations'. The report is to support a Planning Application relating to re development of the Desborough Road Campus.

1.2 The proposed development consists of the demolition of the existing community buildings, construction of residential units with associated parking and hard and soft landscaping provision. The following plans and documents have been supplied by the client:

- Proposed block plans
- Topographical survey

1.3 The site survey was undertaken on the 17th August 2023, and the following report is based upon the findings of that visit and the conditions found on that day.

1.4 We have been provided with a digital file of the existing site and the proposed development.

1.5 Tree position was provided to us on the Topographical Survey.

1.6 Components of Report

This report comprises the following elements:

- Baseline tree survey of trees that may be impacted by proposals
- Arboricultural Implication Assessment (AIA)
- Arboricultural Method Statement (AMS)
- Tree Protection Plan (TPP)

1.7 Technical Synopsis

We have recorded 21no trees and 1no tree groups requiring material consideration; This AIA and the method statement following ensure adequate provision is made to ensure the protection of trees to be retained.

1.7.1 The trees scheduled for removal will be replaced by 'instant impact' semi-mature trees as an important part of the proposal for hard and soft-landscaping finish once the construction phase has been completed, and a proposed planting plan is included in the Proposed Layout.

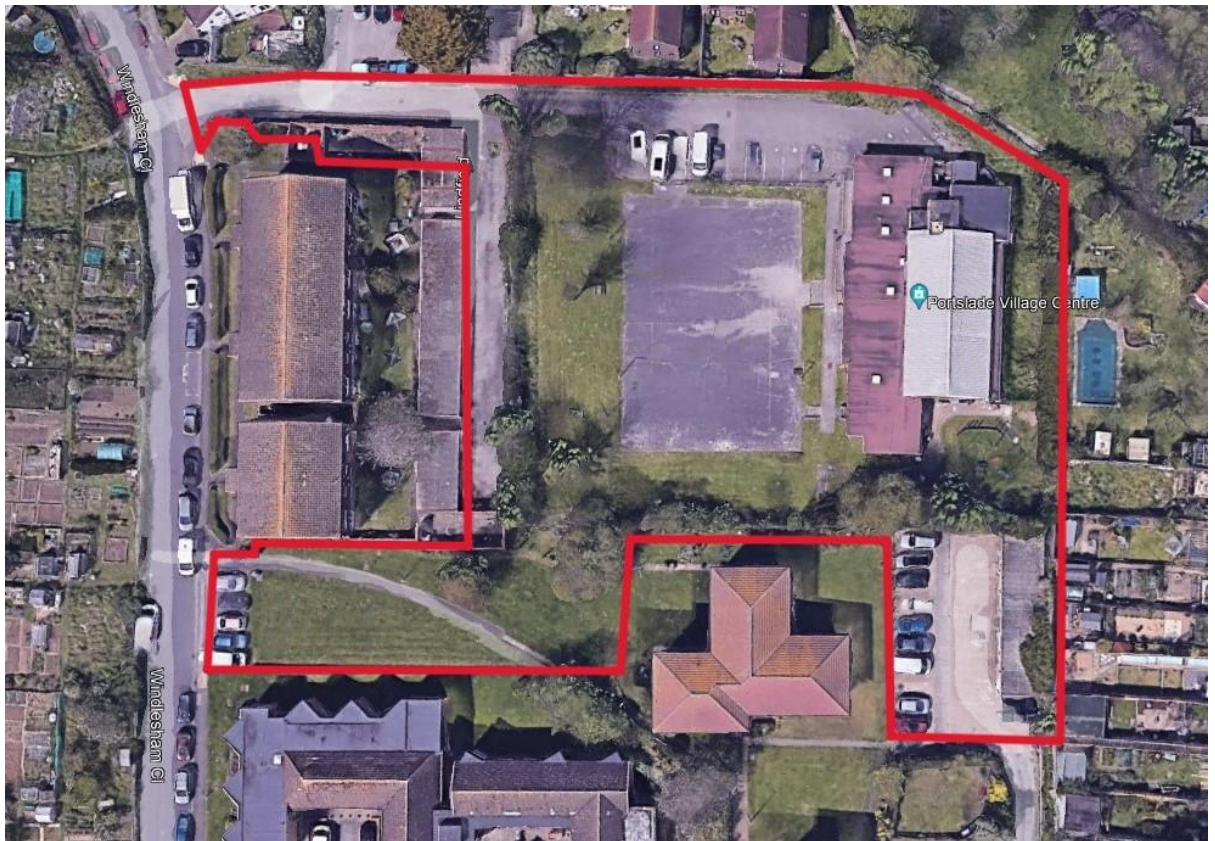
2.0 Scope & Objectives

- 2.1 This report has been commissioned by Miller Bourne and the scope of the report reflects their instructions.
- 2.2 The scope of this report is limited to an appraisal of the existing trees on (and/or adjoining) the site and identification of the implications of development on retained trees.
- 2.3 The brief is to appraise the trees in relation to the proposed development of the site in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.
- 2.4 To prepare clear recommendations supported by relevant plans and data in order to facilitate consideration of the Arboricultural implications by the Local Planning Authority.
- 2.5 To consider the development proposals, identify areas where there are arboricultural issues and to recommend possible solutions.
- 2.6 To consider additional information supplied, to identify arboricultural issues arising from this information and to recommend possible solutions.
- 2.7 This report is not a Tree Risk Management Report or a Hazard Analysis Report and its use as such is invalid.
- 2.8 The trees have been assessed from ground level only. Assessment of condition is based on a visual tree assessment (VTA). No detailed inspection of the upper crown has been carried out. No decay detection equipment (destructive or non-destructive) has been used to further assess the condition of the trees, which is beyond the scope of the survey. Any dangerous trees requiring further assessment on safety grounds will be identified.
- 2.9 Due to the changing nature of trees and other site circumstances this report and any recommendations made are limited to a 5-year period. Any alteration to the application site or any development proposals could change the current circumstances and may invalidate this report and any recommendations made. Should this be the case this report will require revision to reflect the development Proposals.
- 2.10 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.
- 2.11 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.
- 2.12 Tree dimensions were measured using a Richter Diameter tape. All instruments were used in accordance with appropriate user guides.
- 2.13 No soil samples were taken, and no soils analysis was undertaken.
- 2.14 Any legal description or information given to MWA Arboriculture Ltd is believed to be accurate.

- 2.15 Where solutions to arboricultural problems are specified which require the usage of a third party product e.g. no dig roadway construction, no liability is assumed for the performance or suitability of the product and specialist advice as to the suitability or installation of the product should be sought from the manufacturer or other specialist.
- 2.16 No responsibility is assumed by MWA Arboriculture Ltd for legal matters that may arise from this report, and the consultant shall not be required to give testimony or to attend court unless additional contractual arrangements are made.
- 2.17 Any alteration or deletion from this report shall invalidate it as a whole.

3.0 Site Description

- 3.1 The subject property comprises a community centre and the area affected by the proposed development is marked below:



- 3.2 We have not undertaken a statutory control search to determine the presence of any Tree Preservation Order(s) and Conservation Areas.

4.0 Development Proposal

- 4.1 The proposed development consists of the proposed re development of the existing community centre into residential dwellings with associated parking provision. Development layout illustrated below:



5.0 The Survey

5.1 The survey took place on the 17th August 2023 with 19no individual trees and 1no tree group recorded. See Table 1 below:

Table 1 – Tree Survey Schedule

Tree No.	Species	Ht (m)	Dia. @ 1.5m (mm)	No of stems	CS N (m)	CS E (m)	CS S (m)	CS W (m)	ER CY	Crown Ht	Age Class	Description & Recommendations	RPA (Radial)	BS Cat
T1	Sycamore <i>Acer spp.</i>	11.0	390, 250, 265,	1	4.0	3.0	4.0	3.0	10+	2.0E	EM	Self-seeded volunteer which has grown through fence. Retain if proposal allows.	RPA: 6.2	C1
T2	Alder <i>Alnus spp.</i>	13.0	740, 650	2	8.5	7.5	6.0	5.5	20+	2.0E	M	Twin stemmed tree with included bark union showing reactive wound wood. Wind / salt burn to south west. Retain if proposal allows.	RPA: 7.8	B1
T3	Rowan <i>Sorbus spp.</i>	6.0	200	1	2.5	2.5	2.0	2.0	10+	N/A	EM	Fair tree exhibiting symptoms of wind / salt burn to south west and reduced vigour. Basal damage resulting from grass management. Remove to allow development.	RPA: 2.4	C1
T4	Cherry <i>Prunus spp.</i>	12.0	275	1	2.0	2.5	2.0	1.5	10+	3.3E	EM	Fair tree exhibiting symptoms of wind / salt burn to south west and reduced vigour. Basal damage resulting from grass management. Remove to allow development.	RPA: 3.3	C1
T5	Sycamore <i>Acer spp.</i>	11.0	370	1	6.0	3.0	4.5	4.5	10+	N/A	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 4.4	C1
T6	Sycamore <i>Acer spp.</i>	13.0	350	1	4.5	5.5	5.0	4.5	10+	N/A	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 4.2	C1

Tree No.	Species	Ht (m)	Dia. @ 1.5m (mm)	No of stems	CS N (m)	CS E (m)	CS S (m)	CS W (m)	ER CY	Crown Ht	Age Class	Description & Recommendations	RPA (Radial)	BS Cat
T7	Sycamore <i>Acer spp.</i>	10.0	225	1	1.5	1.5	1.5	1.5	10+	3.0E	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 2.7	C1
T8	Sycamore <i>Acer spp.</i>	10.0	120, 115, 100, 100	1	2.5	2.5	2.2	2.5	10+	2.8E	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 2.6	C1
T9	Sycamore <i>Acer spp.</i>	10.0	130, 115, 225, 100, 100	1	3.5	2.0	2.0	2.0	10+	3.0S	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 3.8	C1
T10	Yew <i>Taxus spp.</i>	4.5	160, 170, 170	1	2.0	2.0	2.0	2.0	20-40	2.8	Y	Nice tree of squat form due to salt wind. Retain.	RPA: 3.5	B3
T11	Cherry <i>Prunus spp.</i>	13.0	415	1	5.5	5.5	4.5	4.5	20+	3.0E	M	Nice tree of squat form due to salt wind. Remove to allow development.	RPA: 4.9	B3
T12	Sycamore <i>Acer spp.</i>	12.0	620	1	5.5	6.5	5.5	5.0	10+	4.0N	EM	Fair tree with wind / salt burn to south west. Remove to allow development.	RPA: 7.4	C1
T13	Kohuhu <i>Pittosporum spp.</i>	9.0	60 (15)	1	3.0	3.0	3.0	3.0	10+	1.0	M	Off-site tree of fair form. Retain. Existing wall provides protection.	RPA: 2.8	B3
T14	Cedar <i>Cedrus spp.</i>	15.0	700, 300, 200	1	5.0	5.0	5.0	5.0	10+	3.0	M	Off-site tree of fair form. Retain. Location provides protection.	RPA: 9.4	C1

Tree No.	Species	Ht (m)	Dia. @ 1.5m (mm)	No of stems	CS N (m)	CS E (m)	CS S (m)	CS W (m)	ER CY	Crown Ht	Age Class	Description & Recommendations	RPA (Radial)	BS Cat
T15	Lime <i>Tilia spp.</i>	14.0	340	1	3.0	3.0	3.0	3.0	20+	1.0	EM	Well balanced tree offering long-term contribution to the site. Remove to allow development.	RPA: 4.1	B3
T16	Cherry <i>Prunus spp.</i>	9.0	375	1	4.0	4.0	4.0	4.0	20-40	2.0	EM	Well balanced tree offering long-term contribution to the site. Remove to allow development.	RPA: 4.5	B3
T17	Ash <i>Fraxinus spp.</i>	8.0	180	1	2.0	2.0	2.0	2.0	10+	3.0	Y	Self-seeded volunteer which has grown through fence. Dismantling fence will require removal of tree.	RPA: 2.1	C1
T20	Holly <i>Ulex spp.</i>	7.0	250*	1	2.0	2.0	2.0	2.0	10+	1.0	EM	Ivy clad tree of fair form. Remove to allow development.	RPA: 3.0	C1
T21	Cypress <i>Cupressus spp.</i>	6	255	1	3.5	3.0	4.0	3.5	10+	1.0	EM	Low value tree. Retain if proposal allows.	RPA: 3.06	C1
TG1	Willow <i>Salix spp.</i>	12.0	Upto 300 MS*	N/A	2.0	4.0	4.0	4.0	10+	N/A	EM	Group of fair trees which have some cultural value adding to local amenity. Retain if proposal allows.	RPA: 3.6	B3

Headings and Abbreviations:

No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species:	Common name
Height:	In metres, to half nearest metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Crown Height:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Age Class:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
ERCY:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
BS Cat::	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1

RPA Radius (m): Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
*** (Estimated Dimensions):** Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a “#” symbol

6.0 Arboricultural Impact Assessment

6.1 BS5837 (2012) requires that the root protection area is calculated for each of the retained trees on the development. The root protection area is the minimum area in m² which should be left undisturbed around each retained tree. The standard calculated RPA's and the protection zone radii are detailed in the Tree Survey Schedule (Table 1) above.

6.2 For single stem trees, the RPA has been calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem, one of the two calculation methods below has been used.

6.3 For trees with multiple stems the following rules apply.

a) For trees with two to five stems, the combined stem diameter has been calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

b) For trees with more than five stems, the combined stem diameter is calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

6.4 The RPA for each tree is plotted as a circle centred on the base of the stem.

6.5 The calculated RPA for each tree has been capped to 707 m².

6.6 Where pre-existing site conditions or other factors suggest that rooting has occurred asymmetrically, a polygon of equivalent area has been produced.

6.7 Where modifications to the shape of the RPA have been specified, they reflect a soundly based arboricultural assessment of likely root distribution. Any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

- a) the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
- b) topography and drainage;
- c) the soil type and structure;
- d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.'

- 6.8 The proposed development (dwelling footprints) does not encroach into the root protection areas of any retained trees, however some associated hard surfacing is proposed within the RPAs of retained trees.
- 6.9 In total 13no trees are scheduled for removal of which 3no are Category 'B' and 10no are Category 'C'.
- 6.10 The impact of development (removal of existing hard surfaces and installing new hard surfaces and parking bays) principally results in below ground threats to the tree's root system and rooting environment and their removal is necessary to allow for the development.
- 6.11 The loss of the 13no trees can be satisfactorily mitigated by the proposed planting of new trees which will be introduced as advanced nursery stock as container grown (c.45l) to ensure instant visual impact. The choice of species will be made by project Landscape Architect.

7.0 Potential incursions in to the RPA (Root Protection Area)

- 7.1 The proposed development involves incursions into the RPA of some retained trees. The retained trees T1, T2 and T10, will be protected by the use of barriers as shown on our plan Courthope Centre Tree Protection Plan Courthope Centre MWA TPP 003. Trees T13, T14, T21 and TG1 are off-site trees and existing site conditions provide sufficient protection of the RPAs.
- 7.2 Storage of materials, the site compound and welfare facilities should be set-up using a location outside the RPA of all retained trees.

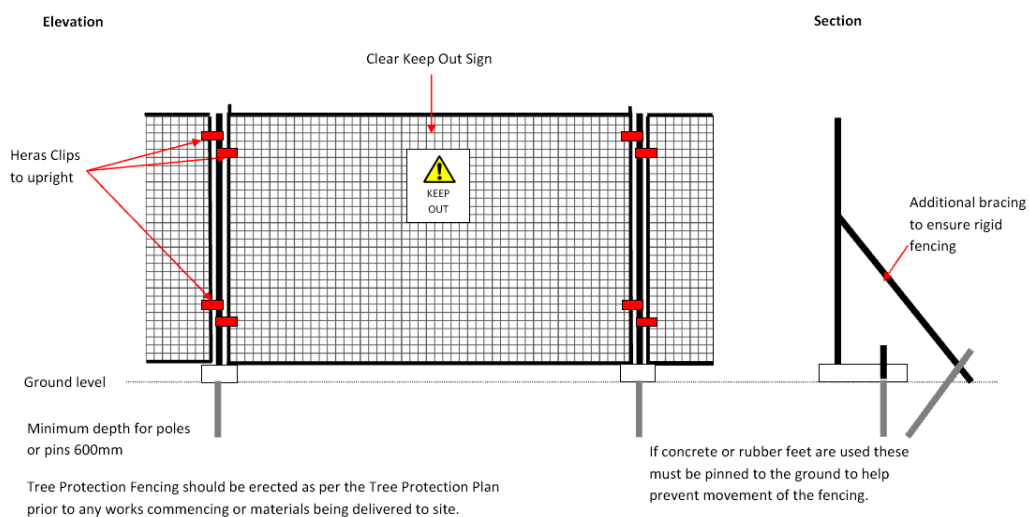
8.1 Arboricultural Method Statement - Tree Protection

- 8.2 The exclusion zones as defined in this report will be protected with fencing. The site is open, and we do not believe that protection of the entire site is necessary. We have indicated on the Tree Protection plan where we believe *Heras style fencing* should be installed. In other areas the trees are protected by existing fencing defining field boundaries and, in our opinion, this will be sufficient to protect the trees on site. Where fencing has been specified the fencing is to be strong enough to resist impacts and suitable to the degree of construction activity on the site and to be in accordance with that specified within BS5837:2012.
- 8.3 Where hard surfacing exists within the RPA and where it is to remain, protective barriers will be erected at the edge of the hard surface and the space may be utilised for operational purposes.
- 8.4 All fencing will be in place prior to any other development work (with the exception of necessary tree works) commencing on site. Such fencing will therefore be erected before any materials or machinery is brought onto site. Once erected the fences will not be moved or altered in any way without prior consultation with the Local Planning Authority other than for operations detailed in this report. If the fencing is damaged in any way, it will be re-instated to its original condition before construction work can re-commence Notices will be erected on the fencing stating 'Protected Area – No Operations within Fenced Area'. Protective fences shall be maintained in situ until all equipment, machinery and surplus materials have been removed from the site. Nothing will be stored or placed in any area fenced in accordance with this condition and the ground levels

within those areas shall not be altered, nor shall any excavation be made other than those detailed in this report, without the written consent of the Local Planning Authority.

- 8.5 The total exclusion zones are marked on the accompanying drawing. British Standard 5837:2012 indicates the recommended areas for the Root Protection Areas (RPA) which should be enforced with protective fencing. Specifications within BS5837:2012 inform our recommendations for both the fencing type as detailed below in figure 2 and the location of this fencing which given the works within the RPA is located at the point where works within the RPA stop.
- 8.6 All protective fencing (except where specified above) is to be constructed in accordance with BS:5837 (2012) – specification reproduced below:

Tree Protection Fencing Specification



8.7 Arboricultural Method Statement – Sequencing of works & supervision

8.8 The sequencing of arboricultural mitigation measures should be planned in advance of the start of construction and can be summarised as follows:

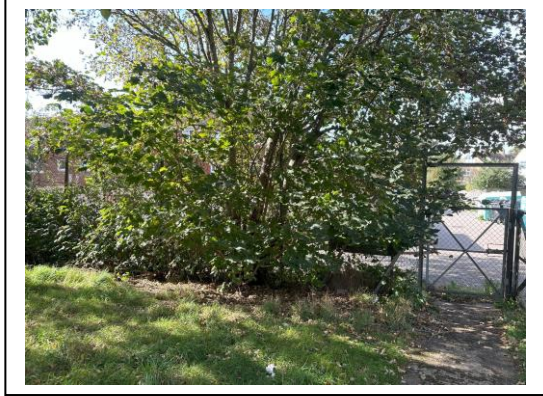
1. Tree removal works to be undertaken by appointed contractor
2. Tree protection measures to be installed by the main contractor and inspected by arboriculturist. All existing hard surfaces covering primary access/egress routes within the RPA to be retained during the demolition and construction phases.
3. Demolition works to be completed

4. Construction works to commence
5. Monitoring of tree protection mitigation – where justified.
6. Removal of existing hard surfaces and construction of new pedestrian routes, vehicular access routes and parking bays.
7. Removal of tree protection only once practical completion has been reached.

9.0 Conclusion and recommendations

- 9.1 There are trees within the site which fall within the constraints of BS5837 (2012).
- 9.2 The impact of the proposed development has been assessed and in our professional opinion, the high quality/instant impact new tree planting proposed offers very satisfactory mitigation for the loss of trees to facilitate the development. In addition, the contribution of trees to be removed is considered to be limited for arboricultural reasons detailed earlier in this report.
- 9.3 All technical issues relating to arboriculture should be addressed to MWA Arboriculture Ltd in the first instance. MWA Arboriculture Ltd will liaise between the Local Planning Authority and any interested parties.
- 9.4 It is suggested that the development proceeds in accordance with the above recommendations with the use of condition(s) by the LPA where appropriate.

10.0 Images



View of T1



View of T2



View of T10



View T13



View of T14



View of TG1